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Examining Social Value Orientations and Environmental Behaviour of the Riparian Communities along the Nairobi River, Kenya

Maureen Bosibori Ogega[1], Bessy Kathambi[2], Karatu Kiemo[3]
[1]Department of Earth and Climate Sciences, University of Nairobi, Kenya
[2]Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi, Kenya
[3]Institute of Development Studies, University of Nairobi, Kenya
Corresponding Author: Maureen Bosibori Ogega; Email: bosibori@students.uonbi.ac.ke

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ABSTRACT

It is widely believed that environmental conservation greatly contributes to reaching the Sustainable Development Goals (SDGs). Even so, social values are not given much attention when planning and carrying out environmental programs in urban riparian areas. For this reason, most efforts to encourage conservation among riparian communities are not well matched to local beliefs and do not reach their goals. In addition, a review of the literature reveals that most studies have focused only on environmental awareness, how policies work, and technical solutions. Therefore, this study aimed to discover how social values influence the environmental behavior of people living along the Nairobi River in Kenya. The study included 400 adults who lived within 500m of the Nairobi River in Nairobi County, Kenya. Data was gathered from the community by using questionnaires with psychometric scales and by interviewing key informants. Secondary data was gathered by reviewing documents and analyzing literature systematically. Most participants were found to have low concern for the environment (70%) and mainly held egoistic values about environmental matters. A positive linear relationship was found between social value orientations and both environmental behavior (R = 0.542) and environmental concern (R = 0.674). Therefore, the communities in the study area did not engage much with environmental issues. According to the study, most communities did not have complete environmental conservation programs (83.2%) or effective ways to manage waste (91.4%). The findings of this study will guide future policies for environmental programs to help Kenya achieve its sustainable urban development goals.

INTRODUCTION

The way people behave toward urban rivers is shaped by the way they value things, their social attitudes, and the way their community sees conservation (Clayton et al., 2016). It requires knowing how people's attitudes toward the environment lead to actions that can either help or harm river ecosystems and the people living nearby (Chan et al., 2018). To study social value orientations among riparian communities, one must analyze the basic choices about sharing environmental costs and benefits among people today, tomorrow, and future generations (Eom et al., 2018).

The idea of social value orientations in environmental situations is based on psychological theories that separate egoistic from biospheric motivations (De Dominicis et al., 2017). It has been shown through research that environmental concerns can be organized in a hierarchy, where altruistic motives include self-interest, unlike the traditional belief that environmental protection depends only on altruism (Xu et al., 2021). Since it was realized that environmental behavior is shaped by various values, research has increased worldwide to see how different social attitudes predict actions that help the environment in places like urban riparian zones in Kenya, China, South Korea, Portugal, and France (Lee et al., 2020). Still,

although there is more understanding of how values affect behavior in environmental fields, research on urban African riparian communities has been held back by issues such as uncoordinated theories, a lack of knowledge about local values, few resources for detailed studies, and not enough use of both psychological and ecological approaches (Muketha, 2020).

Community values and social attitudes are clearly important for the success of any environmental conservation program, including managing riparian zones and restoring damaged rivers (Lee et al., 2020). Yet, studies have found that most environmental policies do not help create real partnerships between state officials and people living along rivers because they do not understand the local way of thinking and motivations (Biwott et al., n.d.). The main reason for this is that social value orientations and their impact on environmental behavior have not been studied systematically in different cultural and socioeconomic settings (Eom et al., 2018). For this reason, most studies have pointed out that understanding community values is essential for successful environmental stewardship and riparian management (Clayton et al., 2016).

Social value orientation assessment means measuring what individuals and groups prefer in terms of environmental results and the way costs and benefits are shared when conservation actions are taken (Buhagiar & Sammut, 2020). Many researchers have found that successful environmental intervention programs use social value analysis and community-based methods that consider the different motivations of those involved (De Dominicis et al., 2017). Studies have found that a person's socioeconomic status plays a big role in their psychological reasons for supporting the environment, with personal beliefs being more important for higher socioeconomic groups and social norms being more important for those with lower socioeconomic status (Eom et al., 2018). Although there is research on environmental attitudes in the West, studies reviewed indicate that communities in Kenya, China, and similar places have their own ways of thinking and acting that need to be considered in environmental management (Muketha, 2020).

In Kenya, environmental behavior assessment among riparian communities is carried out by the National Environment Management Authority (NEMA), the Water Resources Authority (WRA), and community-based organizations that help understand local views and design conservation plans (Muketha, 2020). Although the government and international organizations have spent a lot on riparian zone management, progress has been slow because community values are not well understood, stakeholders are not fully involved, and social psychology is not considered enough in conservation planning (Kipruto Biwott et al., n.d.). Despite all these efforts, urban river systems have continued to deteriorate because of gaps between what policies intend and what actually happens in communities, not considering all the values involved and not paying enough attention to different socioeconomic situations among those living by the rivers (Hall et al., 2013).

Knowing about social value orientations will be key to designing good environmental policies and managing rivers sustainably in Kenya and elsewhere. Yet, it is clear that Kenya, like many developing countries, has not thoroughly studied how community values affect people's actions toward the environment, which means many conservation efforts do not consider the main psychological and social reasons behind human-environment interactions (Clayton et al., 2016). Studies comparing social values across cultures have found that environmental behaviors vary greatly, which is important for understanding how riparian communities function in different places (Moon et al., 2018). Yet, when social value orientation theory is applied to real-life situations, some studies have shown that prosocials' behavior in exchanges is the same as that of proselfs, regardless of their different values (Lewis & Willer, 2017).

Researchers have now started to look at how the values of organizations and communities affect environmental performance and sustainability (de la Cruz Jara et al., 2025). Studies on private land conservation have found that landowners are more likely to conserve their land if they feel responsible for nature and believe their property should help the environment in their region (Wardropper et al., 2024). Community-based methods for managing rivers have become important ways to study how people's values affect environmental actions and conservation in cities (Vall-Casas et al., 2024).

Community-based methods for managing the environment have shown that knowing local values is important for responding to changes and damage in riparian areas (Shahidullah, 2023). Such emotional bonds are strengthened by long-standing traditions, religions, and cultures that describe how communities relate to their surroundings, making riparian areas important for holding the emotions and relationships that define what a community stands for (Mavhura, 2023)

According to research, a lack of environmental knowledge among both the public and government officials can negatively affect the management of riparian zones, and environmental literacy is strongly related to the state of riparian zones in various land-use areas (Arif et al., 2023). It has been found that social values are vital for the ecosystem services that support the well-being and quality of life of people living in cities (Alvarado-Arias et al., 2023). It has been found that urban forest visitors' intentions to act environmentally are most influenced by their social background and watching others, while outcome expectations and self-confidence play a major role in both their intentions and actual actions (Erfanian et al., 2024).

Relational values describe the values, principles, and virtues that guide human relationships with the environment, giving a deeper insight into environmental engagement than other value systems (Pascual et al., 2023). The relational values perspective points out that social relationships and community networks play a big role in influencing how individuals behave toward the environment, and having collective efficacy and social support helps people keep up their pro-environmental actions (Kendal & Raymond, 2019). Research on managing riparian zones in various parts of the world has found that when conservation methods clash with local customs and economic interests, they rarely succeed (Kuster et al., 2024). In addition, studies have found that environmental programs that use local values usually last longer and are more successful because they rely on existing social structures and motivations (Jones et al., 2016). There is not much research on how social values affect environmental actions among people living along rivers in urban African areas. There is no research that looks at how social values and environmental actions are related among communities along the Nairobi River. Because of these gaps, this study aimed to study the social values and environmental actions of people living near the Nairobi River in Kenya.

MATERIALS AND METHODS

Study Area

The research was carried out with people living near the Nairobi River in Nairobi County, Kenya. The Nairobi River, a tributary of the Athi River, begins on the Ngong' Hills in western Nairobi and flows downstream through several counties before emptying into the Indian Ocean. According to (Kageche & Kipkirui, 2020), the main stream of the Nairobi River is found in the north of the city center and is partly canalized, with coordinates between 1°11'59"S and 37°9'26"E. The Nairobi River Basin gets an average of 1,100 mm of rain and has a mean temperature of 17°C (Foeken & Owuor, 2008). Despite past efforts to control pollution, the Nairobi River Ecosystem continues to receive both point and non-point source pollutants as it passes through many informal settlements. (Mbui et al., 2016) found that most of the pollution came from stormwater runoff from these residential units during the rainy seasons. (Ngumba et al., 2016) also found that economic activities (major markets) to the East of Nairobi are a significant source of pollution. As a result of these findings, the study was carried out in riverine communities that are within 500m of the Nairobi River. The sample was divided into groups based on land uses such as commercial, residential, and industrial.

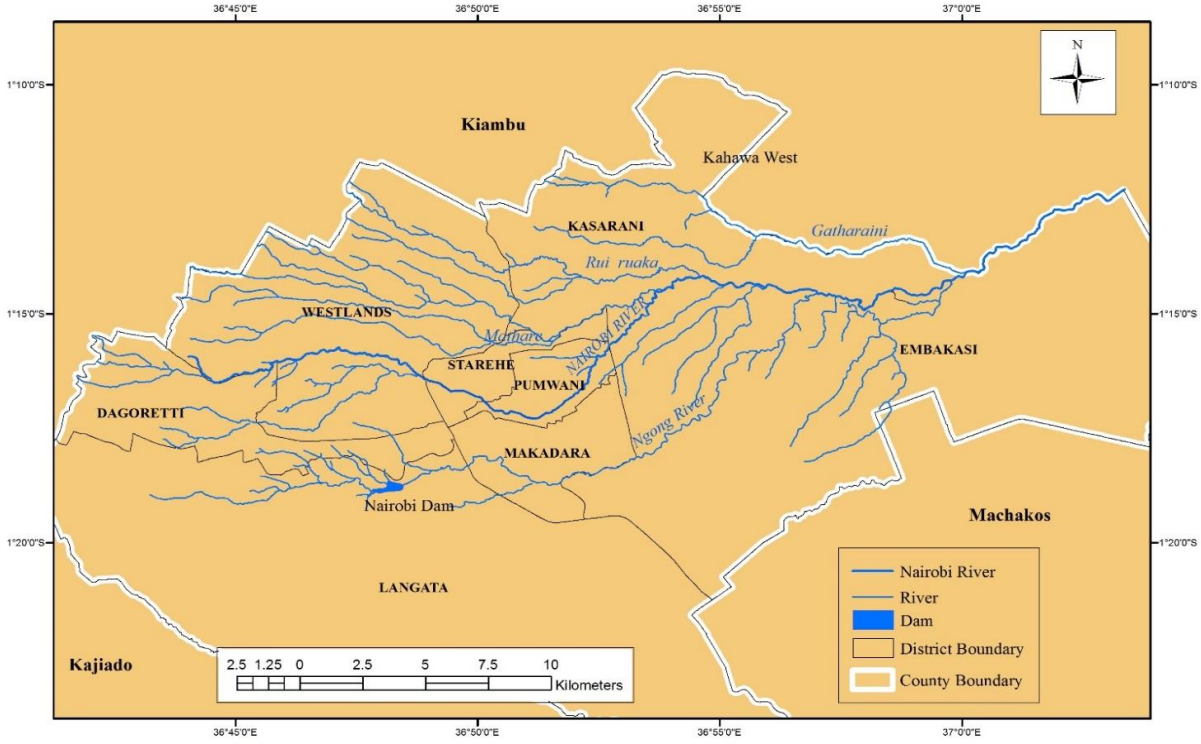

Figure 1. The Study Area –Nairobi River basin. Source: Author

Research Design

Both qualitative and quantitative data were collected using a mixed-methods research design. Data on people's opinions and concerns about the environment were gathered to study the relationship between their actions and their social values in the riparian communities. By using both numbers and stories, the mixed methods approach helped us understand the many ways social and environmental factors are connected (Creswell et al., 2014).

Sampling

The study was conducted with people over 18 years old and included both those living upstream and downstream in the County. A total of 400 respondents were chosen randomly from a sampling method that ensures each sample is equally represented. The total sample size was calculated using the Taro Yamane formula at a confidence level of 95%. The Master Plan for Nairobi River Basin estimates that about 1,960,000 people live along the banks of the river. Yamane's formula:

$n = N / [1 + N (e)^2]$

Where N is the population size, n is the sample size, and e is the precision level. Using this formula, the research team decided to survey 400 people. The survey included 233 males (58.3%), 166 females (41.5%), and 1 other (0.3%). Most respondents (80%) lived within a distance of 101-500m from the Nairobi River. Random sampling was selected to ensure all groups were represented, and purposive sampling was chosen for key informants to share more about the community's views and actions.

Data Collection

The study collected data using both primary and secondary methods. Participants were asked to complete a questionnaire anonymously, which gave an idea of their views on different environmental matters (Nardi, 2018). The survey questions for this study included three sub-scales: environmental concern, environmental attitude, and environmental behavior, as well as some questions about socio-demographic factors. (Bratt, 1999) believes that being pro-environmental varies from one area of life to another, so a person can be environmentally friendly in one area and not in another. The survey items were tested for reliability using the Cronbach's alpha test, so the measurement scales included various items. Secondary data was gathered by reviewing documents and conducting literature reviews related to social value

orientations, environmental psychology, and riparian zone management (Creswell et al., 2014).

Psychometric Scales

Both qualitative and quantitative methods were used in this study. Social value psychometric scales were used in quantitative techniques to measure differences in values between individuals or groups (Wijsen et al., 2022). The first thing to do was to determine the types of social value orientation in the sample population by measuring environmental concern and environmental attitude. For this study, environmental concern and attitude are considered the same. According to Gifford & Sussman (2012), environmental attitudes are significant because they often decide, but not always, whether someone will help or harm the environment. Both the environmental concern and attitude subscales had five items, with some taken from NEP (Dunlap et al., 2000) and others from the General Environmental Behavior Scale and adjusted for the study area. They are the basis for how self-transcendent a person becomes. Participants rated both scales using a 4-point Likert Scale, from 1 (strongly disagree) to 4 (strongly agree). Some open-ended questions, thematic issues, and geo-referencing were used to collect qualitative data.

Data Analysis

Composite variables were created from the survey items using medians and a test for normality of the data. The Kolmogorov-Smirnov test of normality was conducted because the sample size met the threshold for the test (N>100) to determine the empirical distribution of the collected data. The Null hypothesis was rejected because the data were not normally distributed. The data were organized into themes, and correlation models were then used to assess relationships between the participants' social values and their environmental behavior.

RESULTS AND DISCUSSION

Sample Characteristics

Out of the 400 participants, 58% were male, 41% were female, and 1% were intersex. The majority of them, sixty-three percent, were between twenty-five and forty-four years old. Most of the participants lived between 101m and 500m from the Nairobi River, and the average household had four members. Most of the participants, about three-fourths, live as tenants and are mainly involved in the informal sector. Most people in the study area have lived there for about 6 years. All of the participants had received some education, and the highest number had completed secondary school.

Environmental Concern and Social Value Orientations

The study aimed to find out how much environmental concern exists in riparian communities and how it relates to their social values along the Nairobi River. The findings are shown in Figure 2 and are then discussed in detail. People with environmental concerns are aware of environmental issues and want to help solve them on their own (Dunlap et al., 2000). Those who care about the environment for its own sake are more likely to act green, but those who care about themselves are less likely to do so (Keatley et al., 2014). The environmental concern subscale (α = .88) was made up of five items that participants answered using a four-point Likert scale. Higher rank scores showed that the values were very important to the organisation. The majority of participants had low environmental concern, with 70% falling into Ranks 1 and 2 as seen in Figure 2.

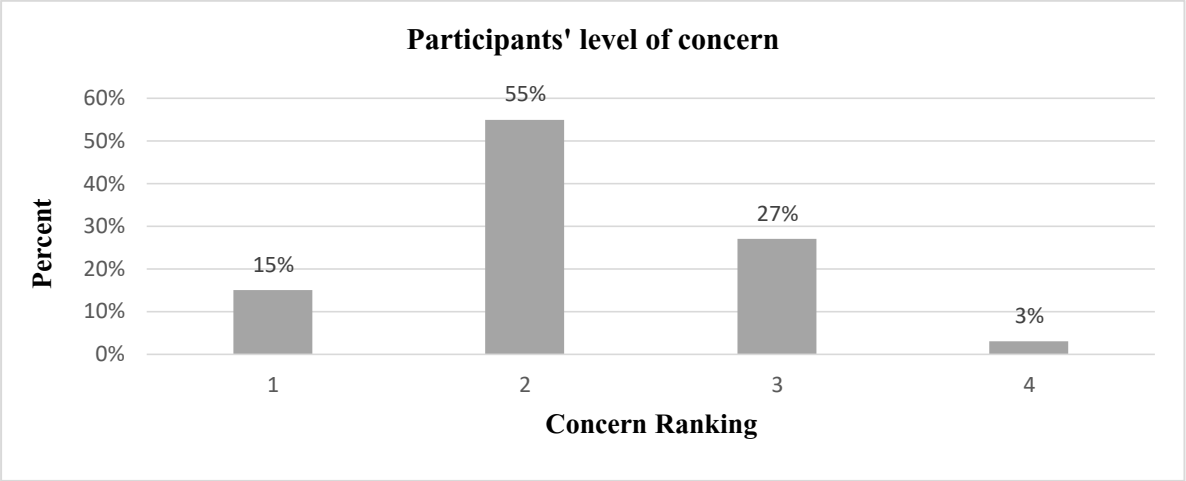

Figure 2. Environmental Concern and Social Value Orientations

Most of the participants in Nairobi River communities (n = 280, 70%) showed low concern for the environment, while only 30% (n=120) had moderate to high concern. Previous research in Kenya has shown that urban riparian communities are struggling financially, lack environmental knowledge, and are mainly concerned with their immediate needs; therefore, they pay little attention to the environment (Muketha, n.d.). For this reason, riparian communities are more likely to focus on short-term economic gain rather than on protecting the environment for the long run. Our findings are in line with (Eom et al., 2018), who found that environmental concern patterns are strongly affected by socioeconomic status, with those from lower socioeconomic groups having different psychological reasons for caring about the environment. In developing countries, research on urban areas found that people's environmental concern was low because of economic difficulties and a lack of environmental information (Piao & Managi, 2024), which resulted in less pro-environmental behavior among residents. In other African cities, people are aware of environmental issues, but their worries are limited by what they need to survive (Liu et al., 2021). It is clear that environmental concern plays a major part in influencing how people behave in conservation (Clayton et al., 2016). It is evident from this and other studies that most urban riparian communities have low levels of concern. As a result, it will be more difficult to protect the environment along the river. As a result, it is important to work on understanding the reasons behind less environmental concern and to address both awareness issues and social and economic barriers that keep communities from caring more about the environment (S. M. Hall et al., 2013).

It was also found that environmental concern levels differed from one riparian community to another. As a result, the concern levels were separated by location to show how they differed among participants. This is most helpful in cities, as the way people live is often related to their economic and social background. Nairobi is separated into two areas by income level: the rich western part with large formal settlements and the poor eastern area (Ono & Kidokoro, 2020). Most participants living in the western area of Nairobi County showed more concern for the environment than those living in the central and eastern areas. This situation is strongly related to the security of tenure for residents. Of the eleven participants who had the highest concern, six were property owners, and of the participants who had the lowest concern (Rank 1), 95% were tenants. Even so, rank 2 was mostly made up of tenants, with 85% of the total. It has been shown that owning property and having secure tenure encourage people to care more about the environment, and property owners tend to improve the environment in their area (Lee et al., 2020). The way environmental concern is spread across space mirrors the unequal nature of cities, with richer areas able to worry about the environment and poorer areas mainly concerned with basic needs (Arsénio et al., 2020). Because concern about the environment varies by location, it is important to design interventions that fit the needs of each community, rather than using the same approach everywhere.

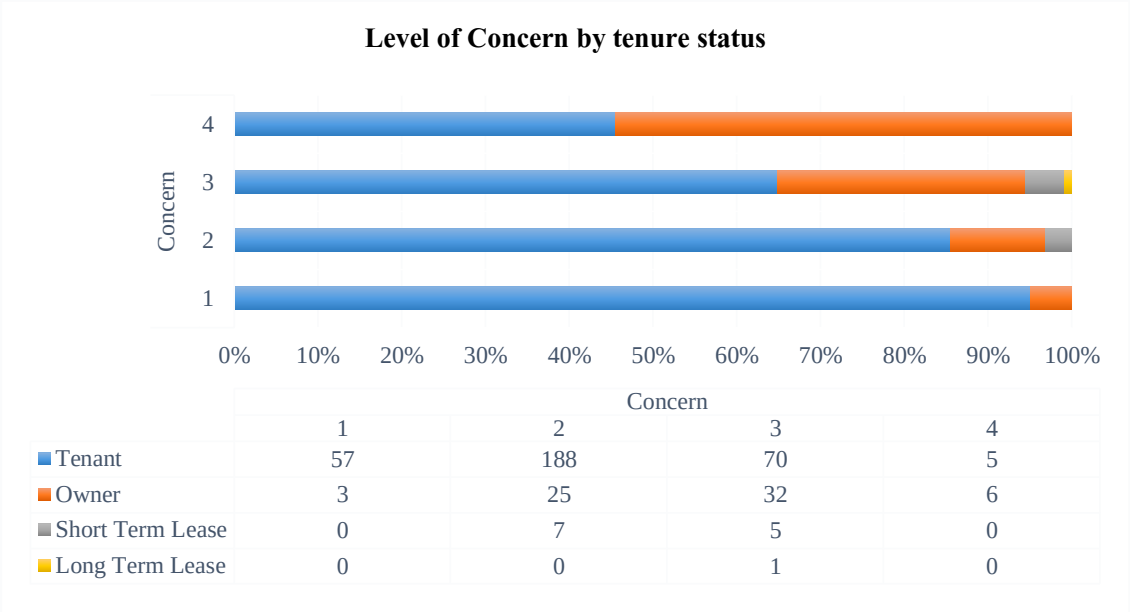

Figure 3. The majority of participants showing a higher level of concern reside in the western parts of Nairobi County

Environmental psychology research has shown that socioeconomic factors are closely related to environmental concern renting Sulemana et al., 2016). Studies keep showing that those with a higher socioeconomic status often care more about the environment because they are less concerned with immediate survival and have more access to environmental information (Eom et al., 2018). The results on tenure security agree with studies showing that owning a home leads to greater care for the environment and stronger ties to a place than renting (Halkos & Matsiori, 2017). Because of this, environmental management should consider that tenant programs might need to focus on quick benefits instead of long-term environmental care. Since most tenants are not very concerned about the environment, environmental conservation programs along the Nairobi River face both difficulties and chances for success.

Environmental Attitude and Social Value Orientations

While other studies may treat environmental concern and environmental attitude as the same, this paper finds it helpful to tell them apart, as the study area has several ways in which attitudes affect environmental behavior. According to (Tamar et al., 2020), environmental attitudes consist of beliefs, influences, and intentions about environmental activities and matters. Environmental attitude can reveal a person's social value orientation and can predict what they will do and intend (Curtin & Jia, 2022). Attitudes are not easy to notice because they are quiet and hidden. For this reason, attitudes are not directly measured, but are instead inferred from the explicit responses (Buhagiar & Sammut, 2020). For this research, a subscale of environmental attitude (α = 0.85) was measured using a 4-point Likert scale, with 1 meaning 'Strongly Disagree' and 4 meaning 'Strongly Agree'. A Rank 4 score on the composite measure showed a very negative attitude. The survey questions were taken from established measures of environmental attitude, the New Environmental Paradigm, and the Environmental Attitude Inventory and adjusted for the study group (Sa'di, 2019).

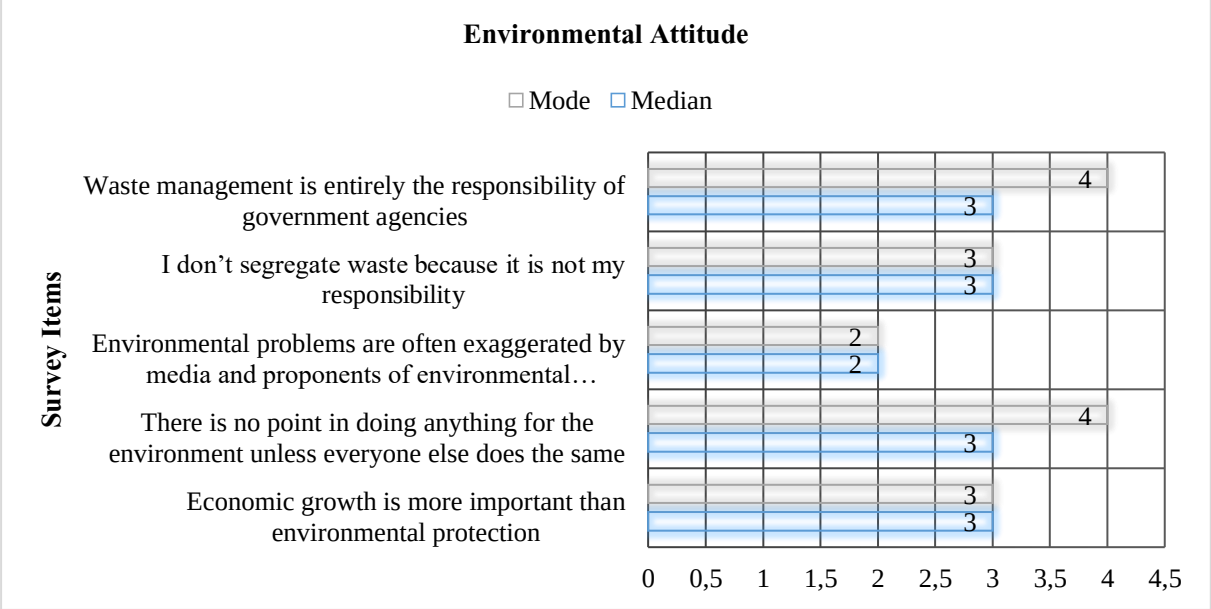

Figure 4. Environmental attitudes survey results

The survey included questions about environmental behavior, and here are the results:

1. The attitude of participants toward economic growth and environmental protection resulted in a Median of 3 and a Mode of 3. It showed that, on average, respondents believe economic growth is more important than protecting the environment. It means that economic factors are given more importance than environmental factors.
2. The Median for individual action for the environment was 3, and the Mode was 4. The median implies that people believe that taking action for the environment matters only if everyone else does it too. The mode reveals that the most frequent answer is a strong agreement with the statement.
3. Participants rated their trust in media reports about the environment as 2 on average and 2 most often. Most respondents do not agree that the media and environmental groups often make environmental problems seem worse than they really are. It appears that people believe environmental concerns are not being exaggerated.
4. Sorting waste into different categories: Median of 3 and Mode of 3. Most respondents say they do not separate waste because they believe it is not their job to do so. It appears that many people do not feel it is their personal duty to separate waste.
5. Who is responsible for waste management: Median of 3 and Mode of 4. Most participants agree that it is the government's job to manage waste. The mode indicates that the most common response is in agreement with this viewpoint.

Generally, participants were aware of the worsening environment, but they mostly had a pessimistic attitude towards nature. People were not very interested in taking action to correct their own behavior. The results agree with studies showing that in economically limited communities, people's environmental attitudes are more practical than idealistic (De Dominicis et al., 2017). When economic growth is given priority over environmental protection, it is supported by studies that indicate communities struggling financially consider environmental protection to be something they cannot afford (Hall et al., 2018). The fact that environmental management is mostly handled by government agencies in these countries is a sign that people look to the government for solutions, not to themselves (Doppelt & McDonough, 2017). Yet, research has found that people's attitudes can change when they see how environmental programs help them personally and when there are effective group action plans (Chan et al., 2018).

Environmental Concern and Attitude Relationships

The study found that environmental concern is strongly linked to environmental attitudes among people living near rivers. The statistical

relationships between these key variables were studied using a cross-tabulation analysis. The findings are shown in Table 1 and are then discussed in detail.

Table 1. Environmental Concern and Attitude

Concern/Attitude Cross-tabulation		Attitude Rank 1	Attitude Rank 2	Attitude Rank 3	Attitude Rank 4	Total
Concern Rank 1	No. of Participants	0	2	21	37	60
	Percentage within Attitude	0.0%	1.6%	12.9%	39.4%	15.0%
Concern Rank 2	No. of Participants	0	31	133	56	220
	Percentage within Attitude	0.0%	25.2%	81.6%	59.6%	55.0%
Concern Rank 3	No. of Participants	13	86	9	1	109
	Percentage within Attitude	65.0%	69.9%	5.5%	1.1%	27.3%
Concern Rank 4	No. of Participants	7	4	0	0	11
	Percentage within Attitude	35.0%	3.3%	0.0%	0.0%	2.8%
Total	No. of Participants	20	123	163	94	400
	Percentage within Attitude	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1 shows the number and percentage of participants who have each attitude rank for each concern rank. Most participants are in Attitude Ranks 2 and 3 for all concern ranks, suggesting that they have a positive attitude toward the subject. The percentage of participants in Attitude Rank 1 is much lower than in the other ranks, which means fewer people have extremely positive attitudes. None of the participants in Concern Rank 4 have an attitude in Ranks 3 or 4, and of the 94 with very negative attitudes, 99% are in Concern Ranks 1 and 2 (39.4% and 59.6% respectively), suggesting a strong link between low concern and negative attitudes. This is also shown by the fact that Concern Rank 2 is the most common in Attitude Rank 3.

Most of the participants with a negative attitude (81.6%) have a low concern for the environment, and 39.4% of those with the most negative attitude have the lowest concern for the environment. As a result, the majority of those with negative environmental attitudes were also found to care very little about the environment. Of the 20 who had a very positive attitude, 65% of participants were somewhat concerned about the environment, and 35% were very concerned. Chi-square statistics were applied to check the relationship between environmental attitude and environmental concern. The Pearson chi-square statistic was 334.874 with 9 degrees of freedom, which gave an asymptotic significance of .000 (two-sided). At the 5% significance level, there is a very strong link between concern and attitude among the participants ($x2 = 334.874$, $df = 9$, $p = 0.000$).

The results are consistent with what environmental psychology theories have shown about the relationship between caring for the environment and having certain attitudes (Buhagiar & Sammut, 2020). It has been found through research that environmental concern helps shape people's attitudes toward environmental matters (Wijsen et al., 2022). The results of this study confirm that the Value-Belief-Norm model is valid, since it found a strong link between concern and attitude. Yet, the fact that many participants with moderate concern still have negative attitudes suggests that other elements besides concern play a role in forming attitudes in urban riparian areas. It has been found that socioeconomic status, trust in institutions, and self-confidence play a role in linking concern with attitude (Eom et al., 2018).

Environmental Awareness and Concern

More analysis was done to examine how awareness influences environmental concern. Environmental awareness is the basic knowledge needed for people to recognize environmental problems and possible answers (Calculli et al., 2021). Two questions assessed the participants'

general knowledge: 'Do you know about any waste management policies in your county?' and 'Most people are not aware of how their actions affect the river'. More than 82% of the 400 participants said they did not know about any waste management policies. In this case, over three-quarters of those surveyed thought that most people did not understand their effects on the river.

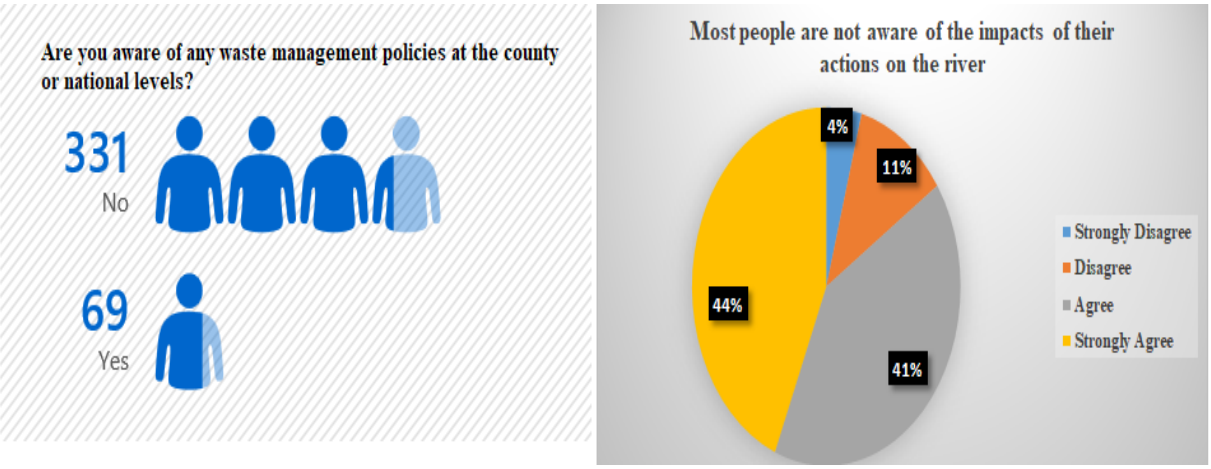

Figure 2. General environmental awareness levels

The findings in this study are in line with what is known from research on environmental education. It is consistently shown that people need to be aware of environmental issues before they can care about them, and a lack of awareness limits their ability to show concern (Piao & Managi, 2024). The fact that 82% of participants are not aware of environmental policies suggests that county governments need to improve their environmental communication and public involvement. Studies have found that understanding policies is important for citizens to join in environmental governance and to support new environmental laws (Muketha, 2020). Most participants admit they are not aware of river impacts, which suggests they are aware of their own knowledge gaps. This can be used to improve environmental education programs.

It was thought that awareness would be related to a higher level of environmental concern. To check this hypothesis, awareness was used as a predictor in a regression analysis of environmental concern. The results indicate that awareness explains 31.2% of the differences in environmental concern. This backs up the hypothesis that awareness predicted concern F (1, 398) = 180.517, as shown in Table 2.

Table 2. Environmental Awareness and Concern

Model	B	SE	β	R^2	t	P
(Constant)	1.997	.032			61.730	.000
Concern	1.046	.078	.559	.312	13.436	.000

The regression analysis shows that environmental awareness is a strong predictor of concern, explaining 31.2% of the changes in concern levels. This result is in line with what environmental psychology studies have shown: knowledge and awareness are needed, but do not guarantee the development of environmental concern (Hall et al., 2018). The moderate effect size means that awareness is important, but other things like a person's social class, personal experience with environmental issues, and what society considers normal also play a big role in how concerned they are. (Liu et al., 2021) found that self-efficacy, outcome efficacy, and social support are also important factors that predict environmental concern, in addition to awareness. As a result, environmental education programs should include both awareness-raising and strategies to help people from economically challenged communities express their environmental concerns (Wi & Chang, 2019).

Environmental Behavior and Predictive Factors

Using the value-belief-norm theory, which covers political activism, non-activist political acts, activities in the private sphere, and support for environmental policies, this study measured respondents' self-reported private environmental behavior with a four-item subscale (α = 0.78) rated on a four-point Likert scale (median scores). These

items included buying green, choosing transport, and following environmental laws, and the effect of sex and age on these behaviors was also looked at (Zhang & Dong, 2020).

H1: Environmental attitude and concern play a major role in affecting environmental behavior.

H2: Sex has a strong effect on how people behave toward the environment

Age plays a major role in influencing environmental behavior

To test H1, environmental behavior was regressed on concern and attitude. Concern and attitude were found to be important predictors of behavior, $F(2, 397) = 241.381$, $p < 0.01$, suggesting that they can shape how someone behaves ($b = 0.461$, $p < 0.01$; $b = -0.339$, $p < 0.01$). In addition, the R2 value of .549 indicates that the model explains 54.9% of the differences in environmental behavior.

Environmental behavior was also analyzed using sex as the predictor to examine H2. There was no significant effect of sex on environmental behavior, $F(1, 398) = .079$, $p > 0.01$, $b = 0.14$, $p = .778$. The R2 = .000 means we should reject H2, which states that sex has a significant effect on environmental behavior.

H3 was tested by regressing the behavior variable on the predicting variable (age). Age was found to be a significant predictor of change in the behavior variable, with $F(1, 398) = 23.659$, $p < 0.01$. In addition, the R2 value of .056 means that the model explains 5.6% of the differences in environmental behavior.

Table 3. Multivariate Regression Analysis Findings

Hypothesis	Regression weights	Beta Coefficient	R^2	F	t-value	p-value	Hypothesis supported
H1	Concern – Behavior	.461	.549	241.381	9.620	.000	Yes
	Attitude-Behavior	-.339	.549	241.381	-7.075	.000	Yes
H2	Sex - behavior	.014	.000	.079	.282	.778	No
H3	Age -Behavior	.237	.056	23.659	4.868	.000	Yes

Regression analysis shows that environmental concern and attitude are important factors that together explain 54.9% of the differences in environmental behavior. This result agrees with the theory that links psychological factors to environmental action and is supported by many studies on attitude-behavior consistency in environmental psychology (De Dominicis et al., 2017). It is clear from the relationship ($\beta = .461$) that people with greater environmental concern tend to engage in actions that help the environment. The finding that attitude and behavior are negatively related ($\beta = -.339$) means that those with more negative environmental attitudes tend to behave less pro-environmentally, as expected from the attitude scale design. Studies have repeatedly shown that environmental concern plays a major role in linking values and environmental behavior in many different cultures (Chan et al., 2018).

The result that sex is not a major factor in environmental behavior goes against some studies in environmental psychology that found gender differences in caring for the environment(Vicente-Molina et al., 2018). Studies in developing countries have found that gender impacts on environmental behavior are not always clear, with socioeconomic factors usually being more important than gender (Piao & Managi, 2024). Although age only accounts for 5.6% of the difference in environmental behavior, it shows that older participants tend to act more environmentally friendly. This result agrees with studies that show older people tend to be more concerned about the environment because they have more life experience and are less focused on their careers (Eom et al., 2018). The age effect may also be related to cohort effects, as older generations experienced different environmental information and social standards at different times (Johnson & Schwadel, 2019).

CONCLUSION

It is important to understand how riparian communities value society and the environment to manage urban rivers sustainably. The importance of community values explains why environmental managers must quickly learn about local values to improve environmental protection. There are many advantages to using value-based approaches in environmental work. But they will only make a difference if they are connected to the community's existing motivations. The findings show that social value assessment is a key way to support sustainable growth in cities. In addition, the environmental efforts along urban rivers have not fully considered what matters to the community. For this reason, people living along rivers are not very concerned about the environment and do not feel motivated to help improve the health of the rivers. Therefore, continuing with value-oriented environmental programming is a good choice for helping urban riparian communities in Kenya protect the environment. The study advises environmental managers and policymakers to change their conservation programs to fit various social values if they want to achieve sustainable urban river management and environmental sustainability.

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